

REMARKS

Claim 1 has been amended to delete the subject matter “the hydrogen desorption ratio of the carbon black being not less than 0.20%.” Entry of this Amendment is respectfully requested. Claims 1-7, 10 and 11 are pending.

Response to Claim Rejections Under § 112

Claims 1-7, 10, and 11 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Claim 1 has been amended to delete the subject matter “the hydrogen desorption ratio of the carbon black being not less than 0.20%.” Accordingly, withdrawal of the rejection is respectfully requested.

Response to Claim Rejections Under §102/103

Claims 1-7 and 10-11 have been rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,197,870 to Sakakibara. Applicants respectfully traverse.

Though acknowledging that Sakakibara does not disclose or suggest the toluene tinting permeability of carbon black, as recited in the present claims, the Examiner asserts that Examples 4-7 of Sakakibara would inherently meet this limitation. Moreover, though acknowledging that Sakakibara does not disclose the hydrogen desorption ratio of the carbon black, the Examiner asserts that the carbon black of Sakakibara would inherently meet the presently claimed limitation that the hydrogen desorption ratio is more than $0.260 - 6.25 \times 10^{-4}$ xCTAB (wt%).

Applicants disagree.

As demonstrated by Mr. Yanagioka's Rule 132 Declaration, submitted on March 30, 2010, the presently claimed hydrogen desorption ratio is not a property that would be inherently met by the carbon black of Sakakibara. In this regard, however, the Examiner rejected the Rule 132 Declaration for the reason set forth at page 2 of the Advisory Action dated April 13, 2010 and in the paragraph bridging pages 6-7 in the present Office Action.¹

The Examiner's rejection is improper.

Sakakibara discloses the residence time, and therefore the carbon blacks shown in the Rule 132 Declaration by Mr. Yanagioka are prepared according to Examples 4-7 of Sakakibara with adjusting the residence time disclosed therein. Sakakibara, however, does not disclose the temperature, and thus, the temperature is assumed based on the CTAB surface area of the carbon black disclosed therein.

In this regard, the carbon blacks shown in the Mr. Yanagioka's Declaration are synthesized by properly adjusting the factors in the furnace (i.e., the residence time and the temperature) which control the surface properties of the carbon black, and as such, the difference in the shape of the furnace does not have an effect on the properties of the resulting carbon blacks. As can be seen from the Declaration, Examples 4-7 of Sakakibara do not satisfy either of (1) a hydrogen desorption ratio $> 0.260-6.25 \times 10^{-4} \times \text{CATB (wt\%)}$ or (2) a toluene tinting

¹ Applicants note that the Examiner appears to indicate near the bottom of page 6 of the Office Action that the Declaration has not been entered. However, Applicants requested entry when the RCE was filed on November 30, 2010. Accordingly, Applicants respectfully request that the Examiner indicate that the Declaration has been entered.

permeability of not less than 90%. Thus, Sakakibara fails to disclose the carbon black used in the present invention.

Applicants note that the basic properties of the carbon black (e.g., surface area, structure and the like) are mainly determined at the start of the reaction. The hydrogen desorption ratio, however, is dependent on the residence time in the reaction zone, i.e., the condition of the thermal history, and in particular, the residence time and the reaction temperature in the furnace.

In addition, Sakakibara teaches that gripping performance can be improved by increasing Tint/CTAB, but fails to teach or suggest the means for lowering heat build-up of the rubber. In addition, Sakakibara fails to teach or suggest the means for simultaneously accomplishing lower heat build-up and improved wear resistance. Therefore, one skilled in the art would not have expected the results obtained according to the present invention.

Moreover, the object of Sakakibara is to improve a gripping performance, and Sakakibara uses $\tan \delta$ as an index of the gripping performance (see, e.g., col. 2, lines 50-58 and col. 10, lines 10-12). In this regard, the carbon black disclosed in Sakakibara has an improved $\tan \delta$.

In contrast, the carbon black of the present invention has low heat buildup (see, e.g., paragraph [0028] on page 7 of the application), i.e., has a lowered $\tan \delta$. Thus, the property of the carbon black of Sakakibara conflicts that of the carbon black of the present invention, and as such, the carbon black of Sakakibara is different from the carbon black of the present invention.

That is, the improved gripping performance in Sakakibara conflicts with the low heat buildup of the present invention, which is a result of the different carbon blacks disclosed in Sakakibara and recited in the present claims.

Thus, Sakakibara fails to anticipate or render obvious the present claims. Accordingly, withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Respectfully submitted,



Thomas M. Hunter
Registration No. 64,676

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